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Title:

SOFT-SIDED CARRYING CASE

L. Harrison Bernbaum

330 South Green Bay Road
Lake Forest, Illinois 60045

Scott Vermillion

819 West Buena Avenue
Chicago, Illinois 60613

SOFT-SIDED CARRYING CASE

Cross Reference to Related Application

[0001] This application is a continuation of U.S. Application Serial Number 09/759,683, entitled "Soft-Sided Carrying Case" and filed January 12, 2001, which is a non-provisional application claiming priority from Provisional Application Serial Number 60/227,214, filed August 23, 2000.

Field of the Invention

[0002] The present invention relates to soft-sided carrying cases. More specifically, the present invention relates to a soft-sided carrying case having a number of compartments, with at least some of the compartments being shiftable between folded and unfolded positions.

Background of the Invention

[0003] Soft-sided luggage or soft-sided carrying cases are generally well known in the art. Soft-sided carrying cases typically offer one or more distinct advantages over conventional luggage. For example, soft-sided luggage is typically lighter weight than conventional luggage, it can typically be carried using a shoulder strap, it typically includes external pockets that can be accessed without completely opening the case, and, if it is well built, it is less prone to damage from improper handling.

[0004] Despite the popularity of known soft-sided carrying cases or luggage, there is a continuing need for improved soft-sided luggage.

Brief Description of the Drawings

[0005] Certain features and advantages in the apparatus disclosed and claimed herein will become apparent to those skilled in the art from the following detailed descriptions and the accompanying drawings, in which:

[0006] Fig. 1 is a perspective view illustrating a soft-sided carrying case assembled in accordance with the teachings of a first preferred embodiment of the invention;

[0007] Fig. 2 is a perspective view of the soft-sided carrying case of claim 1 shown with the upper compartments opened to their unfolded positions;

[0008] Fig. 3 is a perspective view similar to Fig. 2 but illustrating the flaps to the various compartments opened;

[0009] Fig. 3A is a perspective view similar to Fig. 2 but showing an alternate form for the panels or flaps;

[0010] Fig. 4 is a perspective view of the device of Figs. 1-3 but illustrating an optional leg assembly;

[0011] Fig. 5 is a view of the device of Fig. 4 but taken from a different perspective;

[0012] Fig. 6 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a second preferred embodiment of the invention;

[0013] Fig. 7 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a third preferred embodiment of the invention;

[0014] Figs. 7A(i) through 7A(v) are enlarged fragmentary cross-sectional views of a number of alternative arrangements in the area of the hinge line, which alternative arrangements are equally applicable to any of the embodiments disclosed herein;

[0015] Fig. 8 is a perspective view of the device of Fig. 7 but illustrating the upper compartments in the unfolded positions;

[0016] Fig. 8A(i) through 8A(v) are enlarged fragmentary views in perspective taken about the circumscribed portion of Fig. 8 and illustrating a number of alternative details in the area surrounding the hinge, which details are equally applicable to any of the embodiments disclosed herein;

[0017] Fig. 8B(i) through 8B(v) are enlarged fragmentary elevational views taken about the circumscribed portion of Fig. 7 and illustrating alternative details similar to those shown in Figs. 8A(i) through 8A(v), but illustrating those details applied to the outside surface of the soft-sided carrying case;

[0018] Fig. 9 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a fourth preferred embodiment of the invention;

[0019] Fig. 10 is a perspective view of the device of Fig. 9 but illustrating the upper compartments in the unfolded positions;

[0020] Fig. 11 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a fifth preferred embodiment of the invention;

[0021] Fig. 12 is a perspective view of the device of Fig. 11 but illustrating the upper compartments in the unfolded positions;

[0022] Fig. 13 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a sixth preferred embodiment of the invention;

[0023] Fig. 14 is a perspective view of the device of Fig. 13 but illustrating the upper compartments in the unfolded positions;

[0024] Fig. 15 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a seventh preferred embodiment of the invention;

[0025] Fig. 16 is a perspective view of the device of Fig. 15 but illustrating all of the upper compartments in the unfolded positions;

[0026] Fig. 17 is a perspective view of two of the upper compartments that have been separated from the balance of the soft-sided carrying case of any of the previously shown embodiments and which are being shown being attached to each other to form an additional smaller soft-sided carrying case;

[0027] Fig. 18 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of an eighth preferred embodiment of the invention;

[0028] Fig. 19 is a perspective view of the device of Fig. 18 but illustrating the upper compartments in the unfolded positions;

[0029] Fig. 20 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a ninth preferred embodiment of the invention;

[0030] Fig. 21 is a perspective view of the device of Fig. 20 but illustrating the upper compartments in the unfolded positions;

[0031] Fig. 22 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of a tenth preferred embodiment of the invention;

[0032] Fig. 23 is a perspective view of the device of Fig. 22 but illustrating the upper compartments in partially unfolded positions;

[0033] Fig. 24 is a perspective view similar to Fig. 23 but illustrating the upper compartments in more fully unfolded positions;

[0034] Fig. 25 is a perspective view of a soft-sided carrying case assembled in accordance with the teachings of yet another preferred embodiment of the invention; and

[0035] Fig. 26 is a perspective view of the device of Fig. 2 but illustrating the upper compartments in unfolded positions.

Detailed Description of the Preferred Embodiments

[0036] The following description of the preferred embodiments is not intended to limit the scope of the invention to the precise forms disclosed, but instead is intended to be illustrative of the principles of the invention so that others skilled in the art may follow its teachings.

[0037] Referring now to Figs. 1-3 of the drawings, a soft-sided carrying case assembled in accordance with the teachings of the present invention is generally referred to by the reference numeral 10. The soft-sided carrying case generally includes four sidewalls 10a, 10b, 10c, and 10d, a bottom wall 10e and a top wall 10f (Fig. 1). The case 10 further includes a lower compartment 12 and a pair of upper compartments 14 and 16. The lower compartment 12 includes a plurality of sidewalls 12a, 12b 12c, and 12d. The lower compartment 12 also includes a bottom wall 12e and a top wall 12f (visible in Figs. 2 and 3). The first upper compartment 14 includes four

sidewalls 14a, 14b, 14c (obscured in Figure 1 but visible in Figures 2 and 3), and 14d. The first upper compartment 14 also includes a bottom wall 14e and a top wall 14f (the bottom wall 14e being visible in Figures 2 and 3). The second upper compartment 16 includes sidewalls 16a, 16b, 16c (visible in Figure 3), and 16d. The second upper compartment also includes a bottom wall 16e and a top wall 16f (visible in Figure 2). The first and second upper compartments 14, 16 are separated from the lower compartment 12 by a boundary or interface 18.

[0038] As will be outlined in greater detail below, the first upper compartment 14 is pivotable about a first hinge line 14g between the closed or folded position of Figure 1 and the open or unfolded positions of Figures 2 and 3. Similarly, the second upper compartment 16 is pivotable about a hinge line 16g between the closed or folded position of Figure 1 and the open or unfolded positions of Figures 2 and 3. It will be noted that the hinge lines 14g and 16g are generally adjacent to the interface 18 (i.e., the hinge lines 14g and 16g may lie in the same plane as the interface 18).

[0039] In the embodiment of Figures 1 through 3, it will be noted that the sidewall 14a of the first upper compartment 14 is generally contiguous with the sidewall 12a of the lower compartment (i.e., the sidewall 14a of the first upper compartment 14 is an extension of the sidewall 12a of the lower compartment). Similarly, the sidewall 16a of the second upper compartment 16 is contiguous with or is an extension of the sidewall 12c of the lower compartment 12.

[0040] The soft-sided carrying case 10 preferably includes a zipper 20 which engages each of the first and second upper compartments 14, 16 in order to secure each of the first and second upper compartments 14, 16 in their respective closed positions, such as is shown in Figure 1. Upon release of the zipper 20, the first and second upper compartments 14, 16 may be pivoted about their respective hinge lines 14g, 16g to their respective unfolded positions as shown in Figures 2 and 3. The zipper 20 may be disposed along a longitudinal edge 14h, 16h (Fig. 1), of the first and second upper compartments 14, 16.

[0041] Instead of the zipper 20, it will be appreciated that alternate closure mechanisms may be provided in order to secure the first and second upper compartments 14, 16 in their respective folded positions. At least some of these possible alternate mechanisms are discussed below with respect to other forms of preferred embodiments. It will be understood that the closure mechanisms of the various embodiments may be readily substituted for each other as would be apparent to those of skill in the art.

[0042] Referring to Fig. 1, the soft-sided carrying case 10 will preferably include a handle 22, which in the preferred embodiment shown will include a pair of straps 22a, 22b, which straps 22a and/or 22b may be removably attached to the soft-sided carrying case 10 by a releaseable mechanism such as one or more buckles 24, such as commercially available Litelock® buckles. Alternatively, the straps 22a and 22b may be permanently affixed to the soft-sided case 10, such as by sewing, etc. The straps 22a and 22b will preferably be joinable to form the handle 22 using a section 25 of flexible material which is joinable using hook and loop closures or similar material as is known in the art. Additional handles 26, 28 may also be provided as desired, with the number of additional handles being within the choice of the designer. At least one of the handles (i.e., the handle 28) may be extendable, and when used in conjunction with a plurality of wheels 30 will enable the soft-sided carrying case 10 to be wheeled in a fashion similar to a luggage cart. The handle 28 may be made of commercially available materials, and further will preferably have a telescoping handle 28a enabling the entire handle 28 to be stowed in a zipper pocket in the bottom wall 10e of the carrying case 10. The wheels 30 are preferably commercially available in-line skate style wheels using sealed ball bearings. Other commercially available wheels may also be used.

[0043] Referring now to Figures 2 and 3, the lower compartment 12 preferably includes one or more panels or flaps 32a, 32b in the top wall 12f of the lower compartment 12. As shown, the flaps 32a, 32b each include a zipper 34, which enable the flaps 32a, 32b to be opened as shown in Figure 3 to provide access to the lower compartment 12. It will be appreciated that one or more interior dividers 36 may be provided as desired inside the lower compartment 12.

[0044] Each of the bottom walls 14f, 16f of the first and second upper compartments 14, 16, respectively, will preferably include a panel or flap 36a, 36b, respectively. A zipper 38 may be provided for each of the flaps 36a, 36b, thus enabling the flaps 36a, 36b to be secured in the closed position shown in Figure 2 or opened to provide access to the first and second upper compartments 14, 16, as is shown in Figure 3. One or more interior dividers 40 may be provided in either of the upper compartments 14, 16.

[0045] It will be appreciated that the soft-sided carrying case 10 may include additional compartments, such as side compartments or pockets (not shown) and/or end compartments or pockets (not shown), all of which are commonly used in the art. The soft-sided carrying case 10 may also include one or more mesh pockets of known construction.

[0046] The zippers used herein are preferably heavy-duty zippers, which zippers preferably have been taped as is known in the art. Further, the soft-sided case 10 may be constructed of any one of a variety of commercially available fabrics and/or materials, all of which may be chosen based on design considerations for the specific application and all of which would be known to those of skill in the art. Rip-stop materials, which are readily available, may also be used.

[0047] In operation, the soft-sided carrying case 10 would normally be used and/or transported in the configuration of Fig. 1 with the first and second upper compartments 14, 16 in their respective closed or folded positions, generally overlying the lower compartment 12. The zipper 20 is shown securing the upper compartments 14, 16 in the folded positions. Using the section 25 the straps 22a and 22b may be joined together to form the handle 22. It will be understood that the soft-sided carrying case 10 may be readily assembled using known methods of manufacturing.

[0048] When it is desired to access the lower compartment and/or the first and second upper compartments 14, 16, the zipper 20 (or other closing mechanism) should be disengaged, as should the section 25 holding the straps 22a and 22b together. Either or both of the upper compartments 14, 16 may be pivoted about their respective hinge lines 14g, 16g to the unfolded positions

shown in Figs. 2 and 3. Access to the upper compartments 14, 16 may be gained by disengaging the zippers 38 (or other closing mechanism), thus enabling the flaps 36a and 36b to be opened. Access to the lower compartment 12 is gained by disengaging the zippers 34 (or other closing mechanism) thus enabling the flaps 32a and/or 32b to be opened.

[0049] In the embodiment of Figs. 1-3 the hinge line 14g may be defined solely by a flexible portion 10g of the sidewall 10a, while the hinge line 16g may be formed solely by a flexible portion 10h of the sidewall 10c, with no actual physical hinge structure being employed. It will be appreciated that the flexible portions 10g and 10h are disposed substantially in line with the interface 18 between the lower compartment 12 and the first and second upper compartments 14 and 16. Alternatively, the hinge lines 14g and 16g may be defined by actual physical hinge structures as shown and described below with respect to the other embodiments.

[0050] Each of the upper compartments 14, 16 may also include an additional exterior flap or zipper (not shown) in order to provide access to the first and second upper compartments 14, 16 without pivoting the upper compartments 14, 16 to their unfolded positions. Further, additional side pockets may be provided on the soft-sided carrying case 10 in a manner that is known to those skilled in the art. Further, it will be understood that the bottom wall 10e may be constructed of a relatively stiff material or a rigid material for greater durability. Such relatively stiff and/or rigid materials are known to those skilled in the art and are readily available.

[0051] Compression straps (not shown) may be provided in order to secure the upper compartments in their closed positions.

[0052] Also, it will further be appreciated that zippers shown above may be replaced with any number of known closing or securing mechanisms, such as, by way of example and not limitation, straps, buckles, snaps, buttons, and hook and loop closure materials.

[0053] Referring now to Fig. 3A, an alternate form for the soft-sided carrying case is shown, also designated as 10 for ease of reference. The soft-sided carrying case 10 illustrated therein is substantially similar to the soft-

sided case 10 discussed above, with each of the like elements retaining the same reference characters. As shown in Fig. 3A, the lower compartment 12 includes only a single flap 32a with a zipper 34. It will be appreciated that the lower compartment 12 may include additional access flaps (not shown), with the actual number and configuration of the access flaps being governed by design considerations.

[0054] Referring now to Figs. 4 and 5, any of the embodiments of the soft-sided carrying case disclosed herein may optionally be equipped with a retractable stand 42. In the embodiment shown in Figs. 4 and 5, the soft-sided carrying case 10 is shown equipped with the optional stand 42. As shown in Fig. 5, the stand 42 may include a pair of legs 44 and 46. The leg 44 includes an upper end 44a attached to the soft-sided carrying case 10 by a pivot 44b, while the leg 46 includes an upper end 46a attached to the soft-sided case 10 by a pivot 46b. A cross bar 48 is disposed to connect a lower end 44c of the leg 44 to a lower end 46c of the leg 46. A strap 50 engages the cross bar 48 and the case 10 in order to limit the extension of the stand 42 away from the case 10. A pair of hook and loop retaining straps 52 are provided in order to retain the stand 42 in a retracted position against the bottom wall 10e of the carrying case 10 when the stand 42 is not in use.

[0055] Referring now to Fig. 6, a soft-sided carrying case assembled in accordance with the teachings of a second preferred embodiment of the invention is generally referred to by the reference numeral 110. For ease of reference, all elements that are the same or similar to the elements described above with respect to the first embodiment will retain the same reference numerals, but which have been increased by 100. The soft-sided carrying case 110 generally includes four sidewalls 110a, 110b, 110c, and 110d, a bottom wall 110e, which may be rigid, and a top wall. The case 110 further includes a lower compartment 112 and a pair of upper compartments 114 and 116. The lower compartment 112 includes a plurality of sidewalls 112a, 112b, 112c, and 112d. The lower compartment 112 also includes a bottom wall 112e. It will be noted that no top wall is shown for the compartment 112, with the upper extent of the compartment 112 being defined upon the closing of the

compartments 114 and 116. Alternatively, a top wall (not shown) or a mesh panel (not shown) may be provided.

[0056] The first upper compartment 114 includes encircling sidewalls 114a, a bottom wall 114e and a top wall 114f, which may be defined by a flap or a mesh panel. The second upper compartment 116 includes sidewalls 116a, and includes a bottom wall 16e and a top wall 16f, which may be defined by a flap or a mesh panel. The first and second upper compartments 114, 116 are pivotally joined to the lower compartment 112 by one or more hinges 14g, 16g which lie along an interface 118 between the upper compartments 114, 116 and the lower compartment 112, and which permit pivotal movement of the upper compartments between the folded positions (i.e., with the upper compartments 114, 116 disposed above the lower compartment 112 in the manner described above with respect to the first embodiment) and the open or unfolded positions shown in Fig. 6. Preferably, the embodiment of Fig. 6 will include a seal 119 disposed at the interface 118 of the lower compartment 112 and the upper compartments 114, 116. Flaps 136a, 136b are provided for the compartments 114, 116, respectively, each of the flaps 136a and 136b being closeable with a zipper 138 or similar closing mechanism. The carrying case 110 preferably includes one or more closing buckles 120. The soft-sided carrying case 110 will also preferably include one or more handles 126, 128, with the handles 128 being extendable. A plurality of wheels (not shown) may also be provided.

[0057] Referring now to Figs. 7 and 8, a soft-sided carrying case assembled in accordance with the teachings of a third preferred embodiment of the invention is generally referred to by the reference numeral 210. For ease of reference, all elements that are the same or similar to the elements described above with respect to the first embodiment will retain the same reference numerals, but which have been increased by 200. The soft-sided carrying case 210 generally includes four sidewalls 210a, 210b, 210c, and 210d, a bottom wall 210e and a top wall 210f. The case 210 further includes a lower compartment 212 and a pair of upper compartments 214 and 216. The lower compartment 212 includes a plurality of sidewalls 212a, 212b, 212c, and 212d.

The lower compartment 212 also includes a bottom wall 212e and a top wall 212f (Fig. 8).

[0058] The first upper compartment 214 includes a plurality of sidewalls 214a, a bottom wall 214e (Fig. 8) and a top wall 214f (Fig. 7). The second upper compartment 216 includes a plurality of sidewalls 216A, and includes a bottom wall 216e (Fig. 8) and a top wall 216f (Fig. 7). The first and second upper compartments 214, 216 are pivotally joined to the lower compartment 212 by a flexible fabric hinge 214h, 216h, respectively, defined in the sidewalls 210b and 210d of the soft-sided carrying case 210, and lying generally along an interface 218 between the upper compartments 214, 216 and the lower compartment 212. The fabric hinges 214h, 216h permit pivotal movement of the upper compartments 214, 216 between the folded positions (i.e., with the upper compartments 214, 216 disposed above the lower compartment 212 in the manner described above with respect to the first embodiment) and the open or unfolded positions shown in Fig. 8.

[0059] An access flap 232a having a zipper 234 is provided in the top wall 212f of the lower compartment 212. Flaps 236a, 236b are provided for the compartments 214, 216, respectively, each of the flaps 236a and 236b being closeable with a zipper 238 or similar closing mechanism. The carrying case 210 preferably includes one or more sections of hook and loop closure mechanisms 220. Alternatively, straps or other mechanisms may be used. The soft-sided carrying case 210 will also preferably include a shoulder strap 226 (Fig. 7), or a handle (not shown).

[0060] Referring now to Figs 7A(i) through 7A(v), alternative details are shown for the construction of the soft-sided carrying case 210 in the region of the hinge line 216h. It will be understood that the details shown therein are equally applicable to the hinge line 214h, and also are equally applicable to any of the other embodiments described herein. However, for the sake of brevity, the details will be discussed only with respect to the embodiment of Figs. 7 and 8. For ease of reference, to the extent possible similar elements will retain like reference numerals through each of Figs. 7A(i) through 7A(v).

[0061] As shown in Fig. 7A(i), a fabric strap 217 having an upper edge 217a and a lower edge 217b is secured to the soft-sided carrying case 210. The upper edge 217a is secured to the upper compartment 216 by a line of stitching 217c, while the lower edge 217b is secured to the lower compartment 212 by a line of stitching 217d. Two additional straps 219a and 219b are provided, with the strap 219a being stitched to the upper edge 217a as well as to the upper compartment 216, and with the strap 219b being stitched to the lower edge 217b as well as to the lower compartment 212. Preferably, the lines of stitching may be bartack stitching for greater durability in high stress areas.

[0062] As shown in Fig. 7A(ii), a single fabric strap 217 may be employed, having an upper edge 217a stitched at 217c to the upper compartment 216, and further having a lower edge 217b stitched at 217d to the lower compartment 212.

[0063] As shown in Fig. 7A(iii), a line of piping 217 may be employed along the hinge line 216h.

[0064] As shown in Fig. 7A(iv), a zipper 217 may be disposed along the hinge line 216h. The zipper 217 is preferably a #8 or #10 heavy-duty, taped, clear coil zipper.

[0065] Fig. 7A(v) is similar in all respects to Fig. 7A(i), except for the addition of a line of stitching 217 at the hinge line 216h which may be required when the upper compartment 216 and the lower compartment 212 are manufactured of dissimilar materials or dissimilar colors.

[0066] Referring now to Figs 8A(i) through 8A(v), further alternative details are shown for the construction of the soft-sided carrying case 210 in the region of the hinge line 216h. It will again be understood that the details shown therein are equally applicable to the hinge line 214h, and also are equally applicable to any of the other embodiments described herein. Again, for the sake of brevity, the details will be discussed only with respect to the embodiment of Figs. 7 and 8. For ease of reference, to the extent possible similar elements will retain like reference numerals through each of Figs. 7A(i) through 7A(v).

[0067] As shown in each of Figs. 8A(i) through 8A(v), a fabric strap 217 having edges 217a and 217b is secured to each of the upper and lower compartments shown, 216 and 212, respectively. In each of the details shown, the straps are secured such that the straps 217 are only revealed upon opening of the upper compartment 216 to its unfolded position. In Fig. 8A(i), the strap 217 is secured by one or more fasteners 217c, such as a snap, a rivet, a threaded bolt, a button, or any other suitable fastener, either alone or in combination with stitching.

[0068] Figs. 8A(ii) and 8A(iii) illustrate straps 217 having different overall dimensions secured by bartack stitching. Figs. 8A(iv) and 8A(v) illustrate straps 217 secured in a manner similar to that shown in Figs. 7A(i) and (ii), albeit with the details being applied to the inside of the hinge line 216h rather than to the outside of the case 210.

[0069] Referring now to Figs. 8B(i) through 8B(v), illustrated therein are arrangements similar to Figs. 8A(i) through (v), but with each of the respective arrangements being shown secured to the outside of the soft-sided carrying case 210.

[0070] Referring now to Figs. 9 and 10, a soft-sided carrying case assembled in accordance with the teachings of a fourth preferred embodiment of the invention is generally referred to by the reference numeral 310. For ease of reference, all elements that are the same or similar to the elements described above with respect to the first embodiment will retain the same reference numerals, but which have been increased by 300. The soft-sided carrying case 310 generally includes four sidewalls 310a, 310b, 310c, and 310d, a bottom wall 310e and a top wall 310f. The case 310 further includes a lower compartment 312 and a pair of upper compartments 314 and 316. The lower compartment 312 includes a plurality of sidewalls 312a, 312b, 312c, and 312d. The lower compartment 312 also includes a bottom wall 312e and a top wall 312f (Fig. 10).

[0071] The first upper compartment 314 includes a plurality of sidewalls 314a, a bottom wall 314e (Fig. 10) and a top wall 314f. The second upper compartment 316 includes a plurality of sidewalls 316a, and includes a bottom

wall 316e and a top wall 316f. The first and second upper compartments 314, 316 are pivotally joined to the lower compartment 312 along a pair of hinge lines 314g, 316g, respectively, defined in the sidewalls 310b and 310d of the soft-sided carrying case 310 by a two lines of stitching 314h, 316h, respectively. The lines of stitching 314h, 316h are disposed lying generally along an interface 318 between the upper compartments 314, 316 and the lower compartment 312. Other suitable hinges may be employed. Thus, the upper compartments 314, 316 are shiftable between the folded positions (i.e., with the upper compartments 314, 316 disposed above the lower compartment 312 in the manner described above with respect to the first embodiment) and the open or unfolded positions shown in Fig. 10.

[0072] An access flap 332a having a zipper 334 is provided in the top wall 312f of the lower compartment 312. Flaps 336a, 336b are provided for the compartments 314, 316, respectively, each of the flaps 336a and 336b being closeable with a zipper 338 or similar closing mechanism. The carrying case 310 preferably includes one or more sections of hook and loop closure mechanisms 320. Alternatively, straps or other mechanisms may be used. The soft-sided carrying case 310 will also preferably include a suitable handle 322 and or an extendable handle 328.

[0073] Referring now to Figs. 11 and 12, a soft-sided carrying case assembled in accordance with the teachings of a fifth preferred embodiment of the invention is generally referred to by the reference numeral 410. For ease of reference, all elements that are the same or similar to the elements described above with respect to the first embodiment will retain the same reference numerals, but which have been increased by 400. The soft-sided carrying case 410 generally includes four sidewalls 410a, 410b, 410c, and 410d, a bottom wall 410e and a top wall 410f. The case 410 further includes a lower compartment 412 and a pair of upper compartments 414 and 416. The lower compartment 412 includes a plurality of sidewalls 412a, 412b, 412c, and 412d. The lower compartment 412 also includes a bottom wall 412e and a top wall 412f (Fig. 12).

[0074] The first upper compartment 414 includes a plurality of sidewalls 414a, a bottom wall 414e (Fig. 12) and a top wall 414f. The second upper compartment 416 includes a plurality of sidewalls 416a, and includes a bottom wall 416e (Fig. 12) and a top wall 416f. The first and second upper compartments 414, 416 are pivotally joined to the lower compartment 412 along a pair of hinge lines 414g, 416g, respectively, defined in the sidewalls 410a and 410c of the soft-sided carrying case 410 by a releasable zippers 414h, 416h, respectively. The zippers 414h, 416h are disposed lying generally along an interface 418 between the upper compartments 414, 416 and the lower compartment 412. Other suitable releasable mechanisms may be employed. Thus, the upper compartments 414, 416 are shiftable between the folded positions (i.e., with the upper compartments 414, 416 disposed above the lower compartment 412 in the manner described above with respect to the first embodiment) and the open or unfolded positions shown in Fig. 12.

[0075] As with the above embodiments, suitable access flaps may be provided to provide access to the various compartments. Also, carrying case 410 preferably includes one or more closing straps 420, each of which may include one or more buckles 421 or other suitable releasable closing mechanisms, such as straps having hook and loop closures, snaps, buttons, etc. The soft-sided carrying case 410 will also preferably include a suitable handle, such as the handle 422.

[0076] Referring now to Figs. 13 and 14, a soft-sided carrying case assembled in accordance with the teachings of a fifth preferred embodiment of the invention is generally referred to by the reference numeral 510. For ease of reference, all elements that are the same or similar to the elements described above with respect to the first embodiment will retain the same reference numerals, but which have been increased by 500. The soft-sided carrying case 510 generally includes four sidewalls 510a, 510b, 510c, and 510d, a bottom wall 510e and a top wall 510f. The case 510 further includes a lower compartment 512 and a pair of upper compartments 514 and 516. The lower compartment 512 includes a plurality of sidewalls 512a, 512b, 512c, and 512d. The lower compartment 512 also includes a bottom wall 512e and a top wall 512f (Fig. 14).

[0077] The first upper compartment 514 includes a plurality of sidewalls 514a, a bottom wall 514e (Fig. 14) and a top wall 514f. The second upper compartment 516 includes a plurality of sidewalls 516a, and includes a bottom wall 516e (Fig. 14) and a top wall 516f. The first and second upper compartments 514, 516 are pivotally joined to the lower compartment 512 along a pair of hinge lines 514g, 516g, respectively, defined in the sidewalls 510b and 510d of the soft-sided carrying case 510 by lines of stitching 514h, 516h, respectively. The lines of stitching 514h, 516h are disposed lying generally along an interface 518 between the upper compartments 514, 516 and the lower compartment 512. Other suitable hinge mechanisms may be employed. Thus, the upper compartments 514, 516 are shiftable between the folded positions (i.e., with the upper compartments 514, 516 disposed above the lower compartment 512 in the manner described above with respect to the first embodiment) and the open or unfolded positions shown in Fig. 14.

[0078] As with the above embodiments, suitable internal and/or external access flaps may be provided to provide access to the various compartments. Also, carrying case 510 preferably includes one or more closing straps 520, each of which may include one or more buckles 521 or other suitable releasable closing mechanisms, such as straps having hook and loop closures, snaps, buttons, etc. The soft-sided carrying case 510 will also preferably include a suitable handle, such as the handle 522, and/or a shoulder strap 523.

[0079] Referring now to Figs. 15 and 16, a soft-sided carrying case assembled in accordance with the teachings of a sixth preferred embodiment of the invention is generally referred to by the reference numeral 610. For ease of reference, all elements that are the same or similar to the elements described above with respect to the first embodiment will retain the same reference numerals, but which have been increased by 600. The soft-sided carrying case 610 generally includes four sidewalls 610a, 610b, 610c, and 610d, a bottom wall 610e and a top wall 610f. The case 610 further includes a lower compartment 612 and three upper compartments 614, 615, and 616. The lower compartment 612 includes a plurality of sidewalls 612a. The lower compartment 612 also includes a bottom wall 612e and a top wall 612f (Fig. 16).

[0080] Each of the upper compartments 614, 615, and 616 includes a plurality of sidewalls, a top wall and a bottom wall. As shown in Fig. 16, all three compartments 614, 615, and 616 are pivotally joined to the lower compartment 612 by hinges 614g, 615g, and 616g, respectively, disposed along an interface 618. Thus, all three of the upper compartments 614, 615, and 616 are shiftable between the folded positions (i.e., with the upper compartments 614, 615, and/or 616 disposed above the lower compartment 612) and the open or unfolded positions shown in Fig. 16.

[0081] Fig. 17 illustrates the manner by which any of the upper compartments of the previously mentioned embodiments (for example, the upper compartments 414 and 416 of the embodiment of Figs. 11 and 12) may be removed from the case and may be joined together to form a second, smaller carrying case 411. A handle (not shown) may be provided.

[0082] Figs. 18-21 illustrate two different configurations for a tri-fold soft-sided carrying case assembled in accordance with the teachings of still further embodiments of the present invention, each designated as 710. The cases 710 shown therein each include a lower compartment 712 and pair of upper compartments 714 and 716. It will be noted that the hinge lines 714h and 716h are in different planes when the cases 710 are in the folded positions of Figs. 18 and 20. The remainder of the cases shown therein may be constructed in accordance with the teachings of the above-described embodiments.

[0083] Figs. 22 and 23 illustrate a soft-sided carrying case 810 having a plurality of compartments 812, 814, 816, 818, and 820. The compartments 814 and 816 pivot about vertical hinge lines 814h and 816h, while the compartment 818 may pivot about a horizontal hinge line 818h (Fig. 23). The compartment 820 may be removable as shown in Fig. 23, or may pivot about a hinge line 820h (Fig. 23).

[0084] Figs. 24-26 illustrate two additional embodiments incorporating the teachings of the present invention.

[0085] Although certain exemplary embodiments constructed in accordance with the teachings of the invention have been described herein, the scope of coverage of this patent is not limited thereto. On the contrary, this patent

covers all embodiments of the teachings of the invention fairly falling within the scope of the appended claims either literally or under the doctrine of equivalents.